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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/518,548	07/11/2006	Tomohisa Takahashi	264194US90PCT	6822
22850 7590 12/11/2009 OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER WEDDELL, ALEXANDER MARION				
ART UNIT		PAPER NUMBER		
1792				
NOTIFICATION DATE		DELIVERY MODE		
12/11/2009		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/518,548

Applicant(s)

TAKAHASHI, TOMOHIKA

Examiner

ALEXANDER WEDDLE

Art Unit

1792

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 September 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/CG-706)
Paper No(s)/Mail Date 09/11/2009, 9/11/2009, 10/06/2009
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to Claims 1-2 have been considered but are moot in view of the new ground(s) of rejection necessitated by amendment.
2. Applicant's arguments with respect to Claim 4 have been fully considered but they are not persuasive.

In response to applicant's argument that the amended preamble of Claim 4 places the claim in condition for allowance (Remarks, p. 7), a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In the present case, the amendment does not change the structure of the claimed composition.

In response to Applicant's argument that the *McNeil* teaches away from including inorganic particles with aspect ratios within the claimed range (Remarks, p. 8), Examiner's argument that *McNeill* teaches away from the recited aspect ratio is apparently based on an assumption regarding the relationship between the aspect ratio of inorganic particles and of inorganic fibers in a well-designed sealing material; because Applicant has not demonstrated that this assumption was either expressed in or recognized by the person of ordinary skill in the art at the time of *McNeill*, the assumption cannot show that *McNeill* teaches away from the claimed range.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., orienting the inorganic filler to provide a sealing material layer having superior thermal conductivity in the oriented direction, Remarks, p. 8, last paragraph) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-2 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The feature "fitting a plate-shaped *and* ring-shaped scraper" is new matter, because the specification teaches "a plate-shaped scraper" as a structure distinct from "a ring-shaped scraper," and does not support a combination of a plate-shaped scraper and ring-shaped scraper (Figs. 4-5; Table 1; pars. 0010-0011, 0083). Furthermore, the specification does not support a claimed ring-shaped scraper which is also a plate-shaped scraper, because such an interpretation would create an inconsistency between

the terms as originally disclosed and as now claimed; it is clear that the "plate-shaped scraper" 51 of the prior art figures and of the written disclosure as originally filed is a completely different structure than applicant's "ring-shaped scraper" 200. The examiner has identified references to a plate-shaped scraper only in the section Background Art and in Reference Example 3, which demonstrates the prior art process with a plate-scraper (Table 1; pars. 0130-0131, 0140). The written disclosure nowhere discloses a plate-scraper which is also ring-shaped, and the distinction between "plate-shaped" and "ring-shaped scraper" clearly expressed in the written disclosure must preclude any interpretation based on the drawings which would create an inconsistency in how the term is interpreted throughout the application; therefore, the feature is new matter.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-2 and 5-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-2 and 5-9 are indefinite, because it is unclear how a plate-shaped scraper, which is disclosed in the specification as completely distinct from a ring-shaped scraper, can also be plate-shaped. Neither the specification nor the claims define the structure "plate-shaped and ring-shaped scraper"; on the contrary, the written disclosure apparently makes a distinction between the two separate structures (Fig. 4, element 200 (Applicant's scraper) and fig. 5, element 51 (prior art scraper); pars. 0010-0011, 0083). It is therefore unclear in what way a plate-shaped scraper, which the present

specification expressly distinguishes from a ring-shaped scraper, can also be ring-shaped.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claims 1, 2, and 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sander (US 2002/0100994) in view of Horikawa et al. (EP 449556) and further in view of Applicant's admitted prior art ("AAPA").

Regarding Claim 1, Sander (US'994) teaches a method for manufacturing ceramic monoliths, such as catalytic converters for catalytically treating the exhaust gas of internal combustion engines (Abstract; par. 0002), Comprising the steps of applying a sealing material to the outside surface of the ceramic monolith (pars. 0015, 0018) and scraping the exterior surface of the ceramic monolith with a calibrating ring, which

moves relative to the exterior surface of the ceramic monolith to both strip away excess seal material from the outer surface and to provide a smooth seal surface coating (par. 0019). A person of ordinary skill in the art at the time of invention would have recognized that the ring would spread (*i.e.*, "expand") the sealing material over the entire exterior face of the ceramic monolith as it moved relative to the surface in order to smooth the surface.

US'994 is silent as to a step of preparing a pillar-shaped porous honeycomb member. Horikawa et al. (EP'556) teach a process for producing a ceramic honeycomb structural body as a "ceramic monolith" in catalytic converters for treating the exhaust gas of internal combustion engines (Abstract; p. 2, lines 1-4). It would have been obvious to a person of ordinary skill in the art at the time of invention to practice the process of US'994 by preparing a pillar-shaped porous honeycomb ceramic monolith, because EP'556 suggests that the coating should be uniformly spread over the outer periphery of the structural member as provided by US'994 to provide an adequate ceramic honeycomb structure (p. 4, lines 8-10).

US'994 in view of EP'556 is silent as to a plate-shaped scraper. AAPA teaches that a plate-shaped scraper was known in the prior art to form a sealing material layer on a honeycomb member (Figs. 5(a) - (e); par. 0010). It would have been obvious to a person of ordinary skill in the art at the time of invention to modify the process of US'994 in view of EP'556 by modifying the scraper to achieve the benefits of the prior art plate scraper while simultaneously benefiting from the ring-shape scraper of US'994.

Regarding Claim 2, US'994 is silent as to the cross-sectional geometry of the ceramic monolith. EP'556 teaches that the cross-section of a honeycomb member or structure may be other than round (p. 5, lines 1-3). It would have been obvious to a person of ordinary skill in the art at the time of invention to modify the process of US'994 by using a different cross-sectional geometry, because US'556 suggests that such cross-sectional geometry provides adequate ceramic honeycomb bodies as catalytic filters.

Regarding Claim 6, US'994 teaches moving a ring scraper to come down over a coated structure or a doctor blade along the exterior of the monolith and teaches a rotating table and rotating the coated part adjacent to a stripping or doctor blade (par. 0019). US'994 in view of EP'556 is silent as to a step of moving the plate-shaped and ring-shaped scraper(s) to reciprocate the scraper(s) in the length direction. It would have been obvious to a person of ordinary skill in the art at the time of invention to modify the process of US'994 in view of EP'556 by moving scraper(s) back and forth (i.e. reciprocating) in the length direction in order to uniformly spread the outer periphery of the member to provide an adequate ceramic honeycomb structure.

Regarding Claim 7, US'994 teaches moving the ring scraper to come down over a coated structure or a doctor blade along the exterior of the monolith and teaches a rotating table and rotating the coated part adjacent to a stripping or doctor blade (par. 0019). US'994 in view of EP'556 does not expressly teach a step of moving the plate-shaped and ring-shaped scraper(s) repeatedly in the length direction. It would have been obvious to a person of ordinary skill in the art at the time of invention to modify the

process of US'994 in view of EP'556 by moving the scraper(s) in the length direction repeatedly in order to uniformly spread the outer periphery of the member to provide an adequate ceramic honeycomb structure.

Regarding Claim 8, US'994 is silent as to the viscosity of the sealing material. EP'556 teaches a sealing material with a viscosity in the range of 10 to 20 Pa-s (100 to 200 poises) (p. 4, lines 1-10). It would have been obvious to a person of ordinary skill in the art at the time of invention to modify the process taught by the combination of references by spreading the sealing material with a viscosity which overlaps the claimed range over the exterior of the structure, because EP'556 teaches that a material with a viscosity within this range will spread uniformly over a ceramic honeycomb structure.

10. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over MacNeill (US 5,385,873).

MacNeill (US'873) teaches a sealing material comprising an inorganic filler and an inorganic binder (col. 2, lines 2-29). US'873 discloses that the inorganic binder is a high-aspect ratio (high length to diameter) vermiculite with an aspect ratio of about 10 or more. US'873 teaches that the ceramic fibers are long with small diameters, (*i.e.*, high aspect ratio). US'873 is silent as to the aspect ratio of the inorganic filler. It would have been obvious to a person of ordinary skill in the art at the time of invention to prepare the composition of US'873 with ceramic fibers with an aspect ratio within the range of that of the vermiculite with a reasonable expectation of success.

11. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sander (US 2002/0100994) in view of Horikawa et al. (EP 449556) and further in view of

Applicant's admitted prior art ("AAPA") as applied to Claim 1 above, and further in view of Muroi et al. (JP2004290766A, citing US 2007/0037703 as English Translation for convenience).

Regarding Claim 5, the combination of references is silent as to the material from which the contacting portion of the ring (i.e. the center member) is made. Muroi et al. (JP'766) teach a step of scraping the end surface of a honeycomb carrier in the manufacture of a honeycomb catalyst with a scraper, which employs rubber or soft resin, to scrape a sealing material with a viscosity in the range of 5 to 50 Pa-s (50 to 500 poises), more preferably a viscosity in the range of 10-20 Pa-s (pars. 0035 – 0042). It would have been obvious to a person of ordinary skill in the art at the time of invention to modify the process taught by the combination of references by disposing a center member made from a material that is softer than the material of the honeycomb member inside the plate-shaped and ring-shaped scraper(s) in order to avoid scratching the material of the honeycomb structure while spreading the sealing material over the exterior of the structure.

12. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sander (US 2002/0100994) in view of Horikawa et al. (EP 449556) and further in view of Applicant's admitted prior art ("AAPA") as applied to Claim 1 above, and further in view of MacNeill (US 5,385,873).

Regarding Claim 9, while not particularly restrictive, US'994 teaches that a sealing paste may be made from a mixture of high aspect ratio vermiculate blended with ceramic fibers to produce a relatively smooth blend of vermiculite and fibers (pars.

0005-0006). The combination of references is silent as to the aspect of inorganic filler to inorganic binder. MacNeill (US'873) teaches a sealing material comprising an inorganic filler and an inorganic binder (col. 2, lines 2-29). US'873 discloses that the inorganic binder is a high-aspect ratio (high length to diameter) vermiculite with an aspect ratio of about 10 or more. US'873 teaches that the ceramic fibers are long with small diameters, (*i.e.*, high aspect ratio). US'873 is silent as to the aspect ratio of the inorganic filler. It would have been obvious to a person of ordinary skill in the art at the time of invention to prepare the composition of US'873 with ceramic fibers with an aspect ratio within the range of that of the vermiculite with a reasonable expectation of success.

Conclusion

13. No Claim is allowed.
14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALEXANDER WEDDLE whose telephone number is (571) 270-5346. The examiner can normally be reached on Monday-Thursday, 7:30 AM - 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Kornakov can be reached on (571)272-1303. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. W./
Examiner, Art Unit 1792
/Michael Kornakov/

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Supervisory Patent Examiner, Art Unit 1792